

# E2A (G-9): sc-365261

## BACKGROUND

Transcription factor 3 (E47, E12, E2A immunoglobulin enhancer binding factors E12/E47, E2A, ITF1, TCF3) influences gene expression during B cell maturation. Differentiation of myogenic cells is regulated by multiple positively and negatively acting factors. One well characterized family of helix-loop-helix (HLH) proteins known to play an important role in the regulation of muscle cell development includes Myo D, myogenin, Myf-5 and Myf-6 (also designated MRF-4 or herculin). Myo D transcription factors form heterodimers with products of a more widely expressed family of bHLH genes, the E family, which consists of at least three distinct genes: E2A, IF2 and HEB. Myo D-E heterodimers bind avidly to consensus (CANNTG) E box target sites that are functionally important elements in the upstream regulatory sequences of many muscle-specific terminal differentiation genes. Both homo- and hetero-oligomers of these proteins are able to distinguish very closely related E box proteins and are believed to play important roles in lineage-specific gene expression.

## CHROMOSOMAL LOCATION

Genetic locus: TCF3 (human) mapping to 19p13.3; Tcf3 (mouse) mapping to 10 C1.

## SOURCE

E2A (G-9) is a mouse monoclonal antibody raised against amino acids 208-649 mapping within a basic helix-loop-helix domain of E12 (corresponding to amino acids 208-649 of E47) of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-365261 X, 200 µg/0.1 ml.

## APPLICATIONS

E2A (G-9) is recommended for detection of E2A isoforms E12 and E47 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for E2A siRNA (h): sc-35245, E2A siRNA (m): sc-35246, E2A shRNA Plasmid (h): sc-35245-SH, E2A shRNA Plasmid (m): sc-35246-SH, E2A shRNA (h) Lentiviral Particles: sc-35245-V and E2A shRNA (m) Lentiviral Particles: sc-35246-V.

E2A (G-9) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of E2A: 67 kDa.

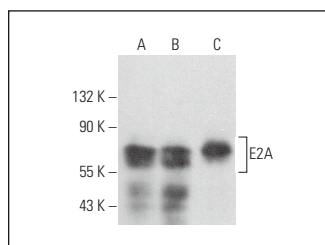
Molecular Weight (observed) of E2A: 63-92 kDa.

Positive Controls: Raji whole cell lysate: sc-364236, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

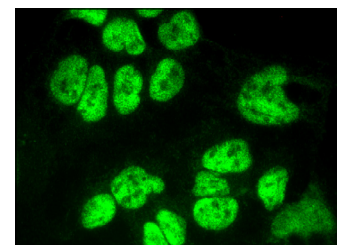
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



E2A (G-9): sc-365261. Western blot analysis of E2A expression in K-562 (A), Jurkat (B) and Raji (C) whole cell lysates.



E2A (G-9): sc-365261. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization.

## SELECT PRODUCT CITATIONS

- Phelps, M.P., et al. 2016. CRISPR screen identifies the NCOR/HDAC3 complex as a major suppressor of differentiation in rhabdomyosarcoma. *Proc. Natl. Acad. Sci. USA* 113: 15090-15095.
- Hu, L., et al. 2020. Depletion of ID3 enhances mesenchymal stem cells therapy by targeting BMP4 in Sjögren's syndrome. *Cell Death Dis.* 11: 172.
- Lee, T.Y., et al. 2020. ERK regulates NeuroD1-mediated neurite outgrowth via proteasomal degradation. *Exp. Neurobiol.* 29: 189-206.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.



See **E2A (G-2): sc-133075** for E2A antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.